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10/713,712	11/14/2003	Hiu-Ming Eric Lam	MSFT125569	2286
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CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC 1420 FIFTH AVENUE SUITE 2800 SEATTLE, WA 98101-2347			GORTAYO, DANGELINO N	
			ART UNIT	PAPER NUMBER
			2168	

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/713,712

Applicant(s)

LAM ET AL.

Examiner

Dangelino N. Gortayo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/14/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-31 are pending

Information Disclosure Statement

2. An initialed and dated copy of Applicant's IDS form 1449, filed 11/14/2003, is attached to the instant Office action.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 13-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims recite the limitation "computer-readable medium", which is defined in the specification as being able to be defined as communication media, including carrier waves, wireless media, and the like. This definition renders the claims non-statutory, with the claims not limited to embodiments which fall within a statutory category. Proper correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-31 are rejected under 35 U.S.C. 102(b) as being unpatentable over Brumme et al. ("Brumme" US Patent 6,134,559)

As per claim 1, Brumme teaches "at least one data store of at least one data store type configured to store at least one data object;" (Figure 1 reference 140, Figure 3 references 190, 200, 210, 220, 230 and column 7 lines 54-60) "an object-oriented heterogeneous data store interface comprising;" (Figure 3 reference 100 and column 7 lines 20-30 and column 7 lines 40-53, "Uniform Object Model") "a query component;" (column 32 lines 17-48, wherein the uniform object model handles queries from the clients directed towards various data stores) "and a provider interface comprising a query component behavior specification specifying a query behavior with a query component parameter;" (column 32 lines 49-66, wherein the adapter interface handles queries in a query language statement) "and for each type of data store, a provider plug-in to the object-oriented heterogeneous data store interface, and each provider plug-in comprises at least one provider component configured with a query behavior conforming to the query component behavior specification of the provider interface."

(Figure 3 references 110 and column 8 lines 6-28, wherein the adapters are configured for each type of data store between the uniform object model and the data stores)

As per claim 2, Brumme teaches “the object-oriented heterogeneous data store interface further comprises a provider object interface comprising: a get value component behavior specification specifying a get value behavior with a data object attribute index parameter;” (column 26 lines 2-10, wherein get/set attributes can be used) “a get object component behavior specification specifying a get object behavior with a data object attribute index parameter;” (column 13 lines 41-64, wherein the get/set attribute method is controlled by the system) “and a get list component behavior specification specifying a get list behavior with a data object attribute index parameter;” (column 32 lines 49-66, wherein the query is specified by a parse tree) “and each provider plug-in further comprises at least one provider object component, and each provider object component is configured with: a get value behavior conforming with the get value component behavior specification of the provider object interface;” (column 34 lines 25-37, wherein an adaptor holds object data to be queried) “a get object behavior conforming with the get object component behavior specification of the provider object interface;” (column 34 lines 25-37, wherein an adaptor can access a collection of objects, including rules for access) “a get list behavior conforming with the get list component behavior specification of the provider object interface;” (column 34 lines 25-37) “and an index of attributes of at least one of said at least one data object.” (column 34 lines 25-37, wherein an adaptor utilizes object reference tables)

As per claim 3, Brumme teaches “the provider object interface further comprises: a set value component behavior specification specifying a set value behavior with a data object attribute index parameter;” (column 31 lines 36-50, wherein the object is introduced and instantiated by an adaptor) “a set null value component behavior specification specifying a set null value behavior with a data object attribute index parameter;” (column 26 lines 2-10, wherein get/set attributes can be used) “a null value test component behavior specification specifying a null value test behavior with a data object attribute index parameter;” (column 26 lines 2-10, wherein get/set attributes can be used to test for present attributes) “and a populated value test component behavior specification specifying a populated value test behavior with a data object attribute index parameter.” (column 31 lines 50-57, wherein an adaptor can check and locate an object using table information, showing population)

As per claim 4, Brumme teaches “the object-oriented heterogeneous data store interface further comprises at least one data store object component;” (Figure 1 reference 180 and column 9 lines 60-67) “and the provider interface further comprises: a connect component behavior specification specifying a connect behavior;” (column 27 lines 49-62, wherein an adaptor determines connection to databases) “a disconnect component behavior specification specifying a disconnect behavior;” (column 14 lines 13-21, wherein exiting a method is determined by rules) “and a commit component behavior specification specifying a commit behavior with a data store object component parameter.” (column 14 lines 13-21, wherein triggers based on rules determines the state of an object)

As per claim 5, Brumme teaches “each data store object component comprises a data store operation attribute;” (column 21 lines 45-62, wherein a data store object includes attributes and types) “each provider component is further configured with a commit behavior conforming to the commit component behavior specification of the provider interface;” (column 15 lines 28-43, wherein each object calls events to be executed) “and the data store operation attribute of the data store object component parameter of the commit behavior of the provider component indicates a data store operation to occur during the commit.” (column 15 lines 28-43, wherein each object calls events to be executed)

As per claim 6, Brumme teaches “the object-oriented heterogeneous data store interface further comprises: for each data object stored in each data store, a data store object component;” (column 21 lines 45-62, wherein a data store object includes attributes and types) “and a data store component configured to provide a subset of data store object components in response to the query component.” (column 31 line 65 – column 32 line 16, wherein an adaptor responds to a query using object attributes in an object collection)

As per claim 7, Brumme teaches “the query component is configured with: an add expression behavior having: at least one query term parameter;” (column 32 lines 17-21) “and a query operator parameter;” (column 32 lines 28-30) “and an add conjunction behavior having a query conjunction parameter.” (column 33 lines 13-21, wherein a query interacts with the parse tree, modifying the collection of objects)

As per claim 8, Brumme teaches “the add expression behavior of the query component further has a query component parameter.” (column 33 lines 13-36, wherein a query moves down the parse tree)

As per claim 9, Brumme teaches “each data object stored in said at least one data store comprises at least one data object attribute;” (column 7 lines 54-60) “the object-oriented heterogeneous data store interface further comprises a data store object component corresponding to each data object stored in each data store;” (column 8 lines 16-28 “metamodel”) “and each data store object component comprises a field list attribute comprising a field specification for at least one data object attribute of the data object corresponding to the data store object component, the field specification comprising a defer property specifying that retrieval of the data object attribute is deferrable.” (column 26 lines 45-64, wherein an adaptor can indicate persistence, meaning retrieval is not necessary)

As per claim 10, Brumme teaches “said at least one data object attribute comprises a data object attribute referencing a list of data objects stored in said at least one data store;” (column 8 lines 16-28, wherein the metamodel describes object types and attributes) “and the field specification for the data object attribute referencing the list of data objects further comprises a schema path property specifying, at least: a type of data object in the list of data objects;” (column 8 lines 44-56, wherein object types are held in the adaptors and the uniform object model) “a first attribute of each data object in the list of data objects;” (column 8 lines 29-43) “a second attribute of the data object corresponding to the data store object component containing the field specification; “

(column 8 lines 16-28) “and a relationship between the first attribute and the second attribute.” (column 9 lines 34-45, wherein the relationship between foreign objects and the uniform model is determined and processed)

As per claim 11, Brumme teaches “the schema path property specifies: more than one type of data object;” (column 9 lines 5-24, wherein the data in the data stores can be from a CORBA database, an OLE database, a relational database, or a OODB database) “and at least one relationship between attributes of each data object.” (column 9 lines 25-33, wherein the foreign objects can communicate via a metadata model)

As per claim 12, Brumme teaches “a data store object source code generator configured to generate object-oriented programming language source code for each data store object component of the object-oriented heterogeneous data store interface.” (column 9 lines 46-59, wherein the adaptor converts or “dress” objects from various data stores into a uniform object model)

As per claim 13, Brumme teaches “instantiating a first query component of an object-oriented heterogeneous data store interface, each query component of the object-oriented heterogeneous data store interface having an add expression behavior,” (column 32 lines 17-21) “the add expression behavior having: at least one query term parameter;” (column 33 lines 13-21, wherein a query interacts with the parse tree, modifying the collection of objects) “and a query operator parameter;” (column 32 lines 28-30) “adding a query expression to the first query component with the add expression

behavior of the first query component;" (column 33 lines 13-36, wherein a query moves down the parse tree) "and providing the first query component to a data store component of the object-oriented heterogeneous data store interface." (column 33 lines 5-13, wherein the data store returns to the adaptor a response to the query)

As per claim 14, Brumme teaches "each query component further has: a query conjunction behavior;" (column 33 lines 36-45, wherein the query can be broken into associations between objects) "a begin group behavior; and an end group behavior" (column 33 lines 45-65, wherein the query processed by the parse tree determines range of query) "and the method further comprises: adding a query conjunction to the first query component with the add conjunction behavior of the first query component;" (column 33 lines 36-45, wherein the query can be broken into associations between objects) "adding a begin group to the first query component with the begin group behavior of the first query component; and adding an end group to the first query component with the end group behavior of the first query component." (column 33 lines 45-65, wherein the query processed by the parse tree maps the object relationships)

As per claim 15, Brumme teaches "each query component specifies a subset of enterprise data objects;" (column 33 lines 14-21) "each query component further has: a get extensible markup language (XML) behavior;" (column 7 lines 40-53, wherein the uniform object model describes data and exhibits XML behavior) "and a set from extensible markup language (XML) behavior;" (column 7 lines 40-53, wherein the uniform object model describes data and exhibits XML behavior) "and the method further comprises obtaining an extensible markup language (XML) representation of the

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subset of enterprise data objects specified by the first query component with the get extensible markup language (XML) behavior of the first query component.” (column 8 lines 29-43)

As per claim 16, Brumme teaches “the method further comprises instantiating a second query component of the object-oriented heterogeneous data store interface;” (column 32 lines 35-41, wherein queries to different data sources are made) “and the query expression added to the first query component comprises the second query component.” (column 32 lines 41-48, wherein the query is composed of two different queries to different databases)

As per claim 17, Brumme teaches “each query component specifies a subset of enterprise data objects;” (column 32 lines 49-54, wherein the query is sent to a specific adaptor) “and the query expression added to the first query component specifies a set of values, the set of values comprising values of a specified attribute of the subset of enterprise data objects specified by the second query component.” (column 32 lines 41-48)

As per claim 18, Brumme teaches “one of a set of valid query operators is provided as the query operator parameter of the add expression behavior of each query component of the object-oriented heterogeneous data store interface;” (column 8 lines 16-28, wherein the metamodel describes object types, attributes, and rules) “and the set of valid query operators comprises: an attribute contains (Contains) query operator that tests if a data object attribute specified by a first query term contains a value specified by a second query term;” (column 9 lines 34-45, wherein the relationship between

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foreign objects and the uniform model is determined and processed) “a value within (Within) query operator that tests if a value specified by the first query term is within a set of values specified by at least one subsequent query term;” (column 10 lines 45-54, wherein the object is checked within the database) “a Has query operator that tests if a data object specified by the first query term has at least one of a set of data objects specified by said at least one subsequent query term;” (column 10 lines 45-54) “and a null test (IsNull) query operator that tests if the data object attribute specified by the first query term has a null value.” (column 26 lines 2-10, wherein get/set attributes can be used)

As per claim 19, Brumme teaches “each query component specifies a subset of enterprise data objects;” (column 32 lines 49-54, wherein the query is sent to a specific adaptor) “and the method further comprises receiving a set of data store object components of the object-oriented heterogeneous data store interface from the data store component as a result of providing the first query component to the data store component,” (column 32 line 66 – column 33 line 13, wherein the adaptor returns the queried object in uniform object model format) “each data store object component in the set of data store object components corresponding to an enterprise data object in the subset of enterprise data objects specified by the first query component.” (column 9 lines 34-45, wherein the relationship between foreign objects and the uniform model is determined and processed)

As per claim 20, Brumme teaches “each data store object component comprises a field list attribute comprising a field specification for at least one data object attribute of

the data object corresponding to the data store object component,” (column 8 lines 44-56, wherein object types are held in the adaptors and the uniform object model) “the field specification comprising a defer property specifying that retrieval of the data object attribute is deferrable.” (column 26 lines 45-64, wherein an adaptor can indicate persistence, meaning retrieval is not necessary)

As per claim 21, Brumme teaches “said at least one data object attribute comprises a data object attribute referencing a list of data objects stored in said at least one data store;” (column 8 lines 16-28, wherein the metamodel describes object types and attributes) “and the field specification for the data object attribute referencing the list of data objects further comprises a schema path property specifying, at least: a type of data object in the list of data objects;” (column 8 lines 44-56, wherein object types are held in the adaptors and the uniform object model) “a first attribute of each data object in the list of data objects;” (column 8 lines 29-43) “a second attribute of the data object corresponding to the data store object component containing the field specification;” (column 8 lines 16-28) “and a relationship between the first attribute and the second attribute.” (column 9 lines 34-45, wherein the relationship between foreign objects and the uniform model is determined and processed)

As per claim 22, Brumme teaches “the schema path property specifies: more than one type of data object;” (column 9 lines 5-24, wherein the data in the data stores can be from a CORBA database, an OLE database, a relational database, or a OODB database) “and at least one relationship between attributes of each data object.”

(column 9 lines 25-33, wherein the foreign objects can communicate via a metadata model)

As per claim 23, Brumme teaches “at least one data store of at least one data store type, each data store capable of storing at least one data object;” (Figure 1 reference 140, Figure 3 references 190, 200, 210, 220, 230 and column 7 lines 54-60) “an object-oriented heterogeneous data store interface comprising at least one data store object component corresponding to at least one of said at least one data object stored in said at least one data store;” (Figure 3 reference 100 and column 7 lines 20-30 and column 7 lines 40-53, “Uniform Object Model”) “a data store object design graphical user interface configured to enable building of a graphical representation of each data object corresponding to data store object components of the object-oriented heterogeneous data store interface;” (column 34 lines 54-60, wherein the output display presents the graphical information) “and a data store object source code generator capable of generating object-oriented programming language source code for each data store object component of the object-oriented heterogeneous data store interface.” (column 9 lines 46-59, wherein the adaptor converts or “dress” objects from various data stores into a uniform object model)

As per claim 24, Brumme teaches “an extensible markup language (XML) data store object definition generator configured to generate an extensible markup language (XML) data store object definition from the graphical representation in accordance with an extensible markup language (XML) data store object definition schema.” (column 8

lines 29-43, wherein the uniform object model describes data and exhibits XML behavior)

As per claim 25, Brumme teaches “the data store object source code generator generates object-oriented programming language source code for each data store object component corresponding to the extensible markup language (XML) data store object definition generated from the graphical representation.” (column 8 lines 29-43)

As per claim 26, Brumme teaches “the extensible markup language (XML) data store object definition comprises at least one data store object definition element containing at least one data store object attribute definition element, and each data store object attribute definition element includes a defer property specifying that retrieval of the data object attribute is deferrable.” (column 26 lines 45-64, wherein an adaptor can indicate persistence, meaning retrieval is not necessary)

As per claim 27, Brumme teaches “at least one of said at least one data store object attribute definition element defines a data object attribute referencing a list of data objects stored in said at least one data store;” (column 8 lines 16-28, wherein the metamodel describes object types and attributes) “and each data store object attribute definition element that defines the data object attribute referencing the list of data objects further includes a schema path property specifying, at least: a type of data object in the list of data objects;” (column 8 lines 44-56, wherein object types are held in the adaptors and the uniform object model) “a first attribute of each data object in the list of data objects;” (column 8 lines 29-43) “a second attribute of the data object corresponding to the data store object definition element containing the data store

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object attribute definition element;" (column 8 lines 16-28) "and a relationship between the first attribute and the second attribute." (column 9 lines 34-45, wherein the relationship between foreign objects and the uniform model is determined and processed)

As per claim 28, Brumme teaches "the schema path property specifies: more than one type of data object;" (column 9 lines 5-24, wherein the data in the data stores can be from a CORBA database, an OLE database, a relational database, or a OODB database) "and at least one relationship between attributes of each data object." (column 9 lines 25-33, wherein the foreign objects can communicate via a metadata model)

As per claim 29, Brumme teaches "the object-oriented heterogeneous data store interface further comprises: a query component;" (column 32 lines 17-48, wherein the uniform object model handles queries from the clients directed towards various data stores) "and a provider interface comprising a query component behavior specification specifying a query behavior with a query component parameter;" (column 32 lines 49-66, wherein the adapter interface handles queries in a query language statement) "and further comprising, for each type of data store, a provider plug-in to the object-oriented heterogeneous data store interface, each provider plug-in comprising at least one provider component configured with a query behavior conforming to the query component behavior specification of the provider interface." (Figure 3 references 110 and column 8 lines 6-28, wherein the adapters are configured for each type of data store between the uniform object model and the data stores)

As per claim 30, Brumme teaches “for at least one provider plug-in, a corresponding data store object source code generator plug-in capable of generating data objects for the type of data store associated with the provider plug-in.” (column 9 lines 46-59, wherein the adaptor converts or “dress” objects from various data stores into a uniform object model)

As per claim 31, Brumme teaches “the graphical representation of each data object comprises a security policy designation.” (column 35 lines 27-34 “graphical information)

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

Kung (US Patent 5,933,837 A)

Morgenstern (US Patent 5,970,490 A)

Carlson et al. (US Patent 6,173,439 B1)

Notani et al. (US Patent 6,222,533 B1)

Bodamer et al. (US Patent 6,266,649 B1)

Helgeson et al. (US Patent 6,643,652 B2)

Tamboli et al. (US Patent 6,792,431 B2)

Wheeler et al. (US Patent 6,839,714 B2)

Georgalas et al. (US Publication 2005/0216498 A1)

Prompt et al. (US Patent 6,985,905 B2)

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dangelino N. Gortayo whose telephone number is (571)272-7204. The examiner can normally be reached on M-F 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim T. Vo can be reached on (571)272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dangelino N. Gortayo
Examiner

A handwritten signature in black ink, appearing to read 'Tim Vo', is written over the printed name and title of Tim T. Vo.

Tim T. Vo
SPE